MetroTel Corp.

15 BURKE LANE SYOSSET, NEW YORK 11791 Telephone 516-364-3377

SPARE PARTS PRICE LIST

MT 91A TEST SET

Effective May 1, 1978

P/N	Description	List Price
MT W2FT	Cord w/Plug	$ 14.50
310	Plug	5.10
9894	Probe Tip	5.40
MT W2BJ	Cord w/Plug	16.75
347B	Plug	2.62
9903	Carrying Case	25.63
1015	Battery	.42
9890	Carrying Strap	4.10
10023	Printed Circuit Card Assem.	37.50
2246	Knob	.75
9879	Drawn Case Assembly	18.65
9877	Panel	5.00
1253-567	Potentiometer	6.56
5001-2	Switch	6.13
MT 331	Input Key	4.36
CMT 336B	Rec. Key	5.63
9902	Caution Label	.63
5F40	Flush Head Screw w/Retainer	.81

MINIMUM ORDER REQUIRED: $25.00

FOB: Syosset, N.Y.

TERMS: Net 30 Days

NOTE: Prices subject to change without notice.

METRO TEL CORP. 15 BURKE LANE SYOSSET, NEW YORK 11791 Telephone 516-364-3377

MODIFICATION PROCEDURE

MT-147C

This procedure is intended to provide detailed information to convert Metro Tel., Northern Electric or Western Electric 147B amplifiers to MT-147C.

EQUIPMENT REQUIRED:

1. MT-147C Modification Kit, Model 1023.

PROCEDURE:

1. Unsolder and remove all wires and components from ground lug, switch, potentiometer, input and receive jacks.
2. Remove old chassis and hardware leaving front panel, jacks, switch and potentiometer.
3. Attach new chassis to front panel with old nuts, washers and GND. lug.
4. Construct 1½" wire jumpers to be soldered between terminals on printed circuit board and designations shown on Fig. 1 and listed below.

   A. Wire from Term. 1 to GND. lug.
   B. Wire from Term. 2 to (+) Bat. (lead wire through chassis in between GND. lug and switch to BAT. Holder.)
   C. Wire from Term. 3 to switch (See Fig. 1)
   D. Wire from Term. 4 to switch (See Fig. 1)
   E. Wire from Term. 5 to Pot. (See Fig. 1) (center lead of Pot.)
   F. Wire from Term. 6 to Pot. (See Fig. 1)
   G. Wire from Term. 7 to input jack tip.
   H. Wire from Term. 8 to input jack sleeve.
   I. Wire from Term. 9 to RCV. jack Ring and jumper to ½ normal open contact.
   J. Wire from Term. 10 to RCV. jack tip.
   K. Wire from (-) Bat. to remaining ½ normal open contact.

Note: For steps I, J, K use Fig. 1 for wiring to MT-147B.

Use Fig. 2 for wiring to Western Electric or Northern Electric 147B.

5. Place batteries into holder, observing polarity marked on holder. Re-install chassis assembly into case. This completes the modification.

METRO TEL CORP. 15 BURKE LANE SYOSSET, NEW YORK 11791 Telephone 516-364-3377

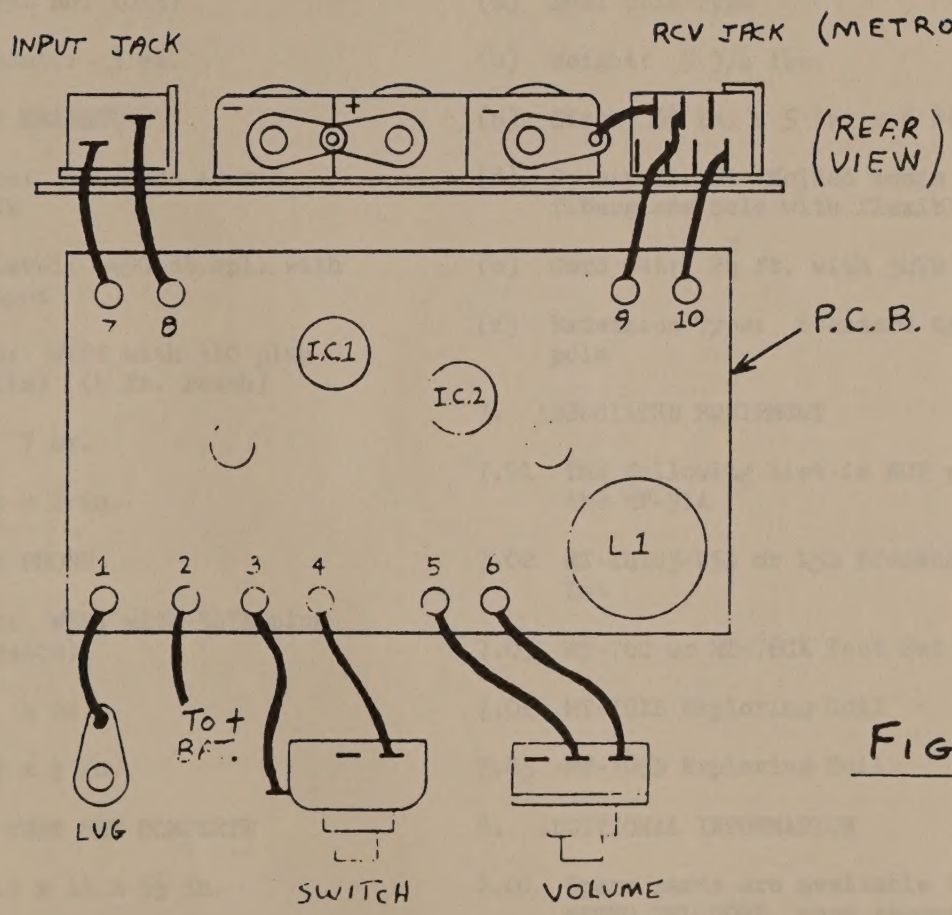


FIG. 1

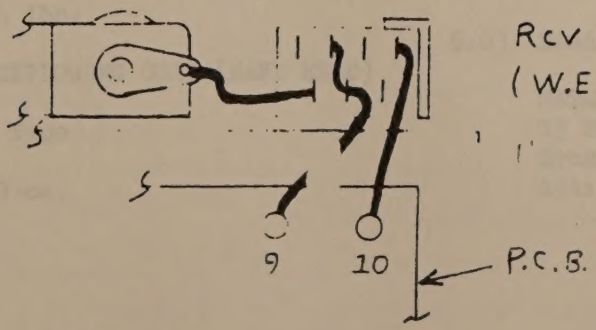


FIG. 2

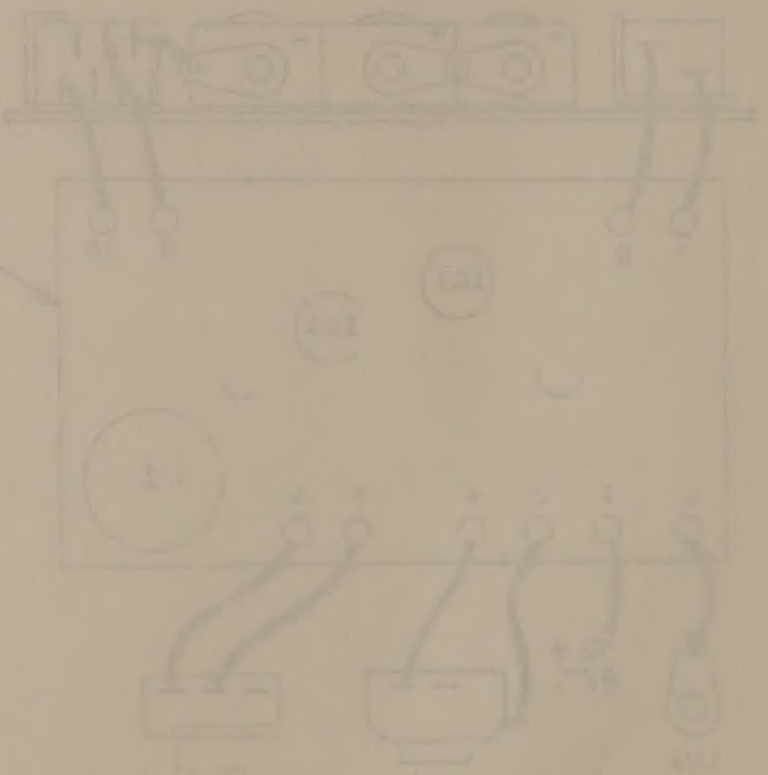


Fig. 1

Fig. 2

(f) Noise: Shorted input: -42 db

(g) Weight: With belt & headset: 1.3 lbs. (Less Battery)

(h) Size: W = 4½ x H = 4½ x T = 2

(i) Batt. Type: Size AA (Every-ready type no. 1015)

(j) Batt. Quant.: 3 ea.

6.02 MT-723A HEADSET

(a) Impedance: 130 ohms +3 mfd at 500 HZ

(b) Output Level: +90 db spl. with +7 db input

(c) Cord Set: W2FT with 310 plug (Retracile) (4 ft. reach)

(d) Weight: 7 oz.

(e) Size: 3 x 2 in.

6.03 MT-513A PROBE

(a) Cord Set: W2BJ with 347B plug (6 ft. reach)

(b) Weight: 4 oz.

(c) Size: 7 x ½ in.

6.04 MT-91A TEST SET COMPLETE

(a) Size: 13 x 11 x 5½ in.

(b) Carrying Case: Heavy duty plastic w/aluminum reinforcement

(c) Weight: 4 lbs.

6.05 MT-101B EXPLORING COIL (HAND HELD)

(a) Dual Coil Type

(b) Weight: 9 oz.

(c) Size: 4 3/8 x 1 7/8 x 1 7/16 in.

(d) Construction: Molded Resin

(e) Cord: 6 ft. with 347B plug

6.06 MT-105D EXPLORING COIL (AERIAL)

(a) Dual Coil Type

(b) Weight: 5 3/4 lbs.

(c) Size: 6½ in. x 5 in. x 6 ft.

(d) Construction: Molded resin coil on fiberglass pole with flexible neck

(e) Cord Set: 24 ft. with 347B plug

(f) Extension Type: Standard tree pruning pole

7. ASSOCIATED EQUIPMENT

7.01 The following list is NOT part of the MT-91A

7.02 MT-14103-L5A or L5B Breakdown Test Set

7.03 MT-76C or MT-76CX Test Set

7.04 MT-101B Exploring Coil

7.05 MT-105D Exploring Coil

8. ADDITIONAL INFORMATION

8.01 Spare parts are available from METRO TEL CORP. upon request.

8.02 For technical assistance, call METRO TEL CORP. at 516-364-3377

8.03 Send repairs and returns to:

METRO TEL CORP.
15 Burke Lane
Syosset, N.Y. 11791
Att: Repair Dept.

NO.	PIECE	ITEM	NAME
1	P-389904	30	SPRING
1	P-347812	29	SPRING
2	P-284660	28	WASHER .138-40 x .022
1	P-44A821	27	RED-2 1/2"
1	P-47C319	26	WHITE-2 5/8
		25	
1	P-44A818	24	ORANGE-9 5/4"
1	P-47C132	23	RED 3"
1	P-44A816	22	GREEN-4"
1	P-44A815	21	SLATE-2 3/4"
1	P-47C100	20	RED-BLUE-2 3/4
1	P-44A813	19	RED-ORANGE-2 1/2"
1	P-44A812	18	RED-GREEN-4"
2		17	PATTON MCGUIRE #30 TER.
2	P-151866	16	HEX NUT .060-80 x .052
1	P-47C130	15B	CHASSIS ASSEM
1	P-115084	14	R.H.M. SCR. BR. .030-80 X 5/16
1	P-47C129	13B	CLAMP & PAD ASSEM.
2	P-97056	12	F.H.M. SCR. STL. .138-32 x 9/16
As Re	P314952	11	22 GA. (.0253) T WIRE
1	P47C258	10	COVER
1	P389175	9B	CAN ASSEM.
1	P113505	8	R.H. STL. SCR. .086-56 x 1/4
2	P339069	7	SHIELD
1	P339784	6	KNOB Grayman 59-54
4	P283716	5	#6 LOCK WASHER MED. STL. SPR. (.138)
4	P-2953	4	HEX NUT STL. .138 x 32
2	P369370	3	WASHER BR. .406 x .625 x .0308
2	P-98630	2	HEX NUT BR. .138-32
2	RM-605062	1	HEX NUT, BR 1/8-32-1/4 THK, 1/4 ACROSS FLATS, NICKEL PLT

STOCK LIST

147 B
AMPLIFIER
ASSEMBLY &
STOCK LIST

Western Electric Company
INCORPORATED

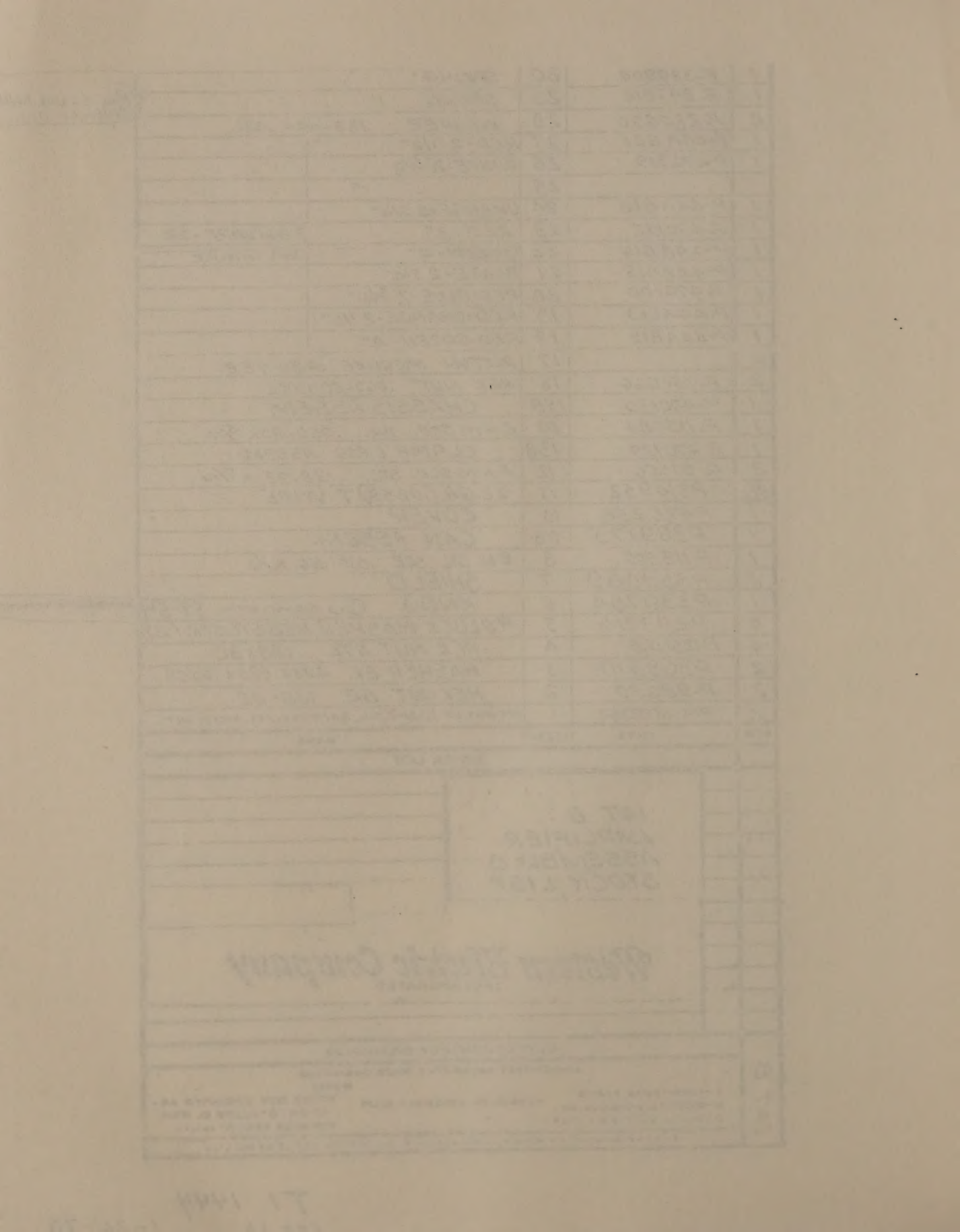
SUPPLEMENTARY DRAWING

147 B

Ray-O-Vac Westinson Products Div.

Wireless Electronics

T1 1444
1S522 1-26-70



2	P44Y358	68	FLAT SHIELD (SEE NOTE 6)
2	P40J923	67	TUBING
2	P40J922	66	"
1	P40J921	65	"
5	P40J920	64	"
1	P-123093	63	LOCKWASHER .086 X .015
2	P44A838	62	1 7/8"
3	P44A837	61	1 5/8"
1	P44A836	60	1 3/8"
6	P44A835	59	7/8"
1	P44A834	58	3/8"
1	P405844	57	5 1/2"
2	P405842	56	
1	P389574	55	2 1/4"
2	P412050	54	2 1/16"

#20 BLK. VARN. TUBING SPEC. 58322 GR. A

BLK. J WIRE 22 GA. SINGLE

		53	(C2)	KS14353	NOT ASSEMBLED SEPARATELY
		52	(C1)	KS14773	

CARTER

1	P339786	51	STRAP ASSEM.
	P.14C414	50	CAUTION LABEL
2	P247380	49	SCREW 3/16 LG.
2	P247379	48	RECESSED FHM STL. .138-32 3/16 LG.
1	P86077	47	HEX NUT .099-56 (STL.)
1	P-47C123	46	MOUNTING PLATE ASSEM.
1	Knob	45	4 ZEROTS KNOB, OBTAINED FROM WALDOM ELECTRONICS INC., ~~SHANDARDEGE CT.~~ CHICAGO, ILL. 60642 4639 W. 54TH ST.
AR		44	E 1201 GLYPTAL
1	P-47C126	43	CONTACT KS 14368
1	P-547809	42	SPRING
1	RM1767401	41	(D1) 12YY1001 SWITCH - GRAYHILL CHI. ILL.
1		40	(R1) KS13250 L1 RESISTOR 20 MEG.
1		39	(R1) KS13700 POTENTIOMETER 1.22 5 MEG.
2		38	(C2)(C3) KS-13814 CAPACITOR .47, .02 MFD 1000
1		37	(C1) KS-14036-3 CAPACITOR 3 MMF
2	RM-766904	36	TUBE-CK5334A RAYTHEON MFG. CO.
1	RM-766903	35	TUBE-CK533AX RAYTHEON, MASS. (SEE NOTE 8)
2		34	(T1, T2) 5234 OUTPUT TRANSFORMER
1		33	(N1) KS-14556 NETWORK
1		32	(J2) 223 A JACK
1		31	(J1) 324 C JACK

(.75 ea — Min. Billing $25)

Waldron Electronics 4639 N. 54 st. Chicago, Ill. 60632

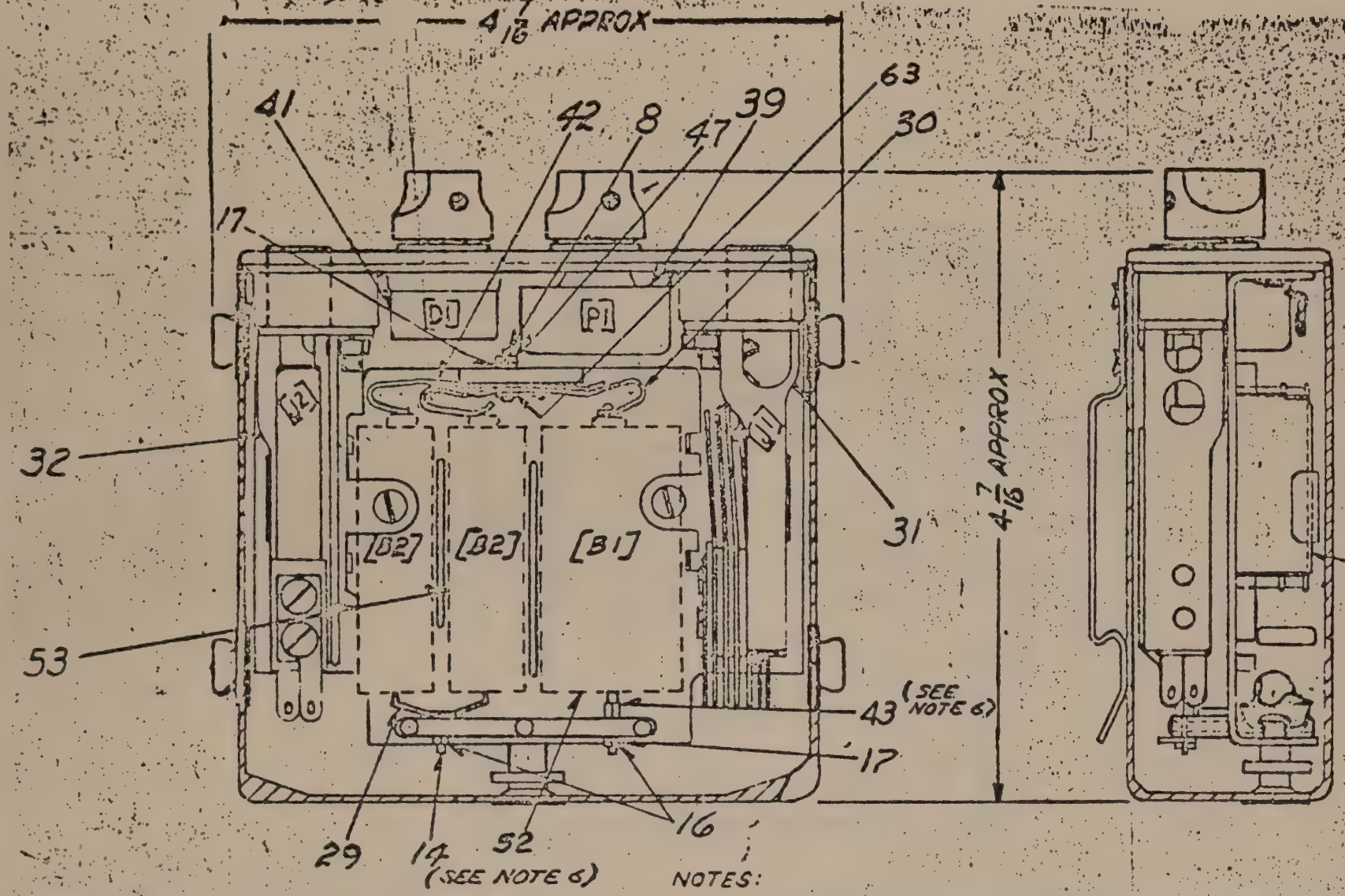
Union Carbide Corp

Ray-O-Vac Wilson Prod.

order from Centralab Division

1478 AMPL

TI 1444 SH 2 of 4



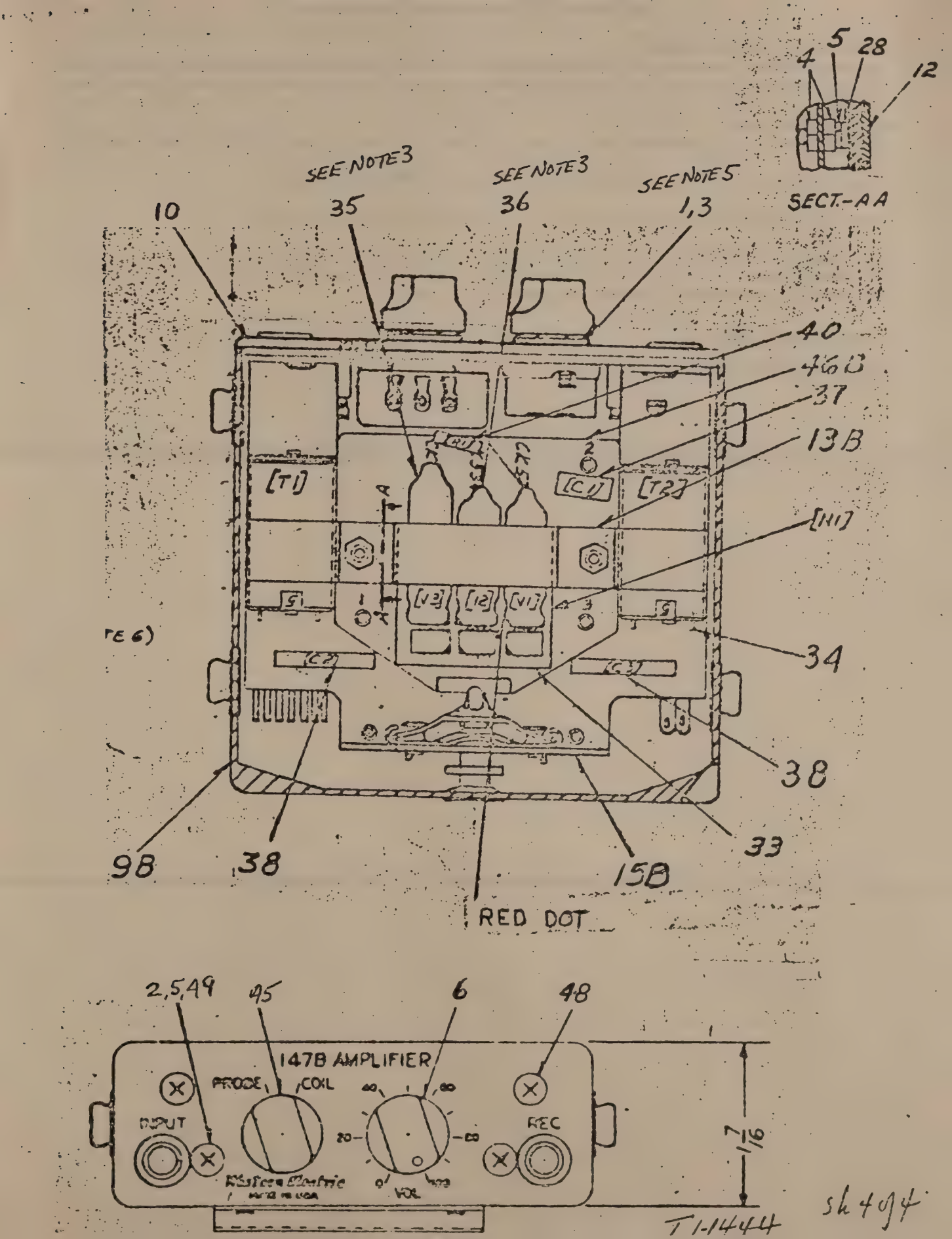
NOTES:

1. APPARATUS DESIGNATIONS C1, D1, J1, ETC. ARE FOR REFERENCE ONLY.
2. USE ITEMS 1 & 3 INSTEAD OF NUTS & WASHERS FURNISHED WITH THE POTENTIOMETER, ITEM 39, AND SWITCH, ITEM 41.
3. PURCHASE ORDER SHALL CALL FOR LEADS OF TUBES TO BE CUT TO .200 ± .015 LENGTH BY THE

5. ABOUT HALF OF NUT, ITEM-1 MAY BE EXPOSED.

6. ADD # 1201 GLYPTAL TO THREADS OF ITEMS 14 & 43 AFTER NUTS ARE IN PLACE. ALSO ADD DROP OF # 1201 GLYPTAL BETWEEN SHIELD AND TRANSFORMER OF ITEM 34.

147B AMPL
TI 14441
SHT 4 OF 4


4
5
28
12
SECT-AA
SEE NOTE3
SEE NOTE3
SEE NOTE5
10
35
36
1,3
40
46B
37
13B
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[C1]
[T2]
[H1]
[V3]
[I2]
[V1]
34
38
33
9B
38
15B
RED DOT
2,5,49
45
6
48
147B AMPLIFIER
PROBE
COIL
INPUT
REC
VOL
1 7/16
T1-1444
sh 4 of 4

FIELD PROVEN*

And Still Only $99.75

This Tunable Modification Saves You Money Four Ways:

1. A proven time saver. On rural or noisy lines you can plan on cutting your fault locating time by at least 10% or more. On pair identification it is even better.

2. A savings of $100-$200 on the initial investment. (Compared to a new Amp purchase)

3. The TAX advantages realized by repairing existing equipment instead of buying new.

4. A warranty with guts. If it breaks within the 12 month period we will fix it free. NO parts charges- NO labor charges- NO shipping charges- FREE.

***Of total sales of 1120 units over a three year period, 966 were re-orders, and to date only 18 have been returned for repair. (Due to our one year, no-strings warranty, our own protection requires that we take extra measures to ensure durability.)**

SEE OTHER SIDE FOR SHIPPING INFORMATON

You are going to have at least one amplifier in need of repair this month. If you send it off for the normal repair job it will be returned to you working the way it always has, and it will cost you $35-$60. Why not add a few bucks and give this modification a try?

Simply package it up with a note attached "Modify to Tunable" and send to:

PARKWAY SYSTEMS ENGINEERING
1301 Highway 80
Clinton, Mississippi 39056
Phone (601) 924-2401

(Please Allow 3 Weeks)

SEE OTHER SIDE

CONVERT THIS

(A WORN OUT 147 AMPLIFIER)

TO THIS

(A FREQUENCY TUNABLE,
SUPER LO NOISE AMPLIFIER)

Harry

FOR LESS THAN 100^{00}*

WITH THIS MODIFIED AMPLIFIER YOU WILL BE ABLE TO:

- Tune to the exact frequency of the tone generator you are using.
- Greatly reduce power influence noise.
- Get more than ten times the output level (compared to a 147B or 147C).
- Use lower output power tone generators in places where high level generators would cause cross-talk problems.
- Work at greater distances from the tone source.

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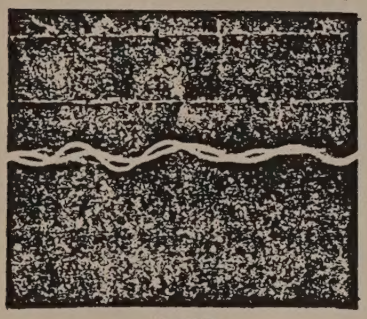
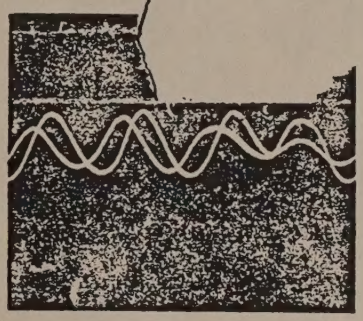
*$99.75 — Including all parts and labor. The amplifier is returned to you modified, calibrated, and with a full one year warranty.

- Due to more and more data and carrier lines being incorporated into Telco Systems, high power tone generators are being removed from service because of the cross-talk problems they cause.
- If you are having difficulties shooting troubles with a lower power tone generator, the problem is probably not the generator but the amplifier you are using.
- The Western Electric 147 amplifier is one of the most rugged and dependable pieces of test equipment ever used, but it was not designed to have the filtering capability, bandwidth, or gain that is required to work effectively with the newer tone generators.
- Send us your worn-out amplifiers (all we need are the two jacks, front plate, and cover) and we will return to you a tunable amplifier with all the endurability of the old 147.

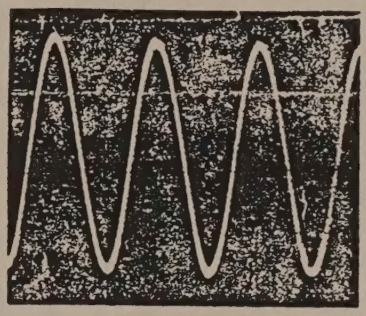
The following waveforms are actual photographs of the amplifiers' outputs across a headphone load of 600 ohms. A tone source was connected to a pair of wires with power influence noise superimposed and a 101 coil employed as the pick-up transducer. Th[illegible]ncy was 580HZ.



147B
The tone is all but lost in the power influence hash.

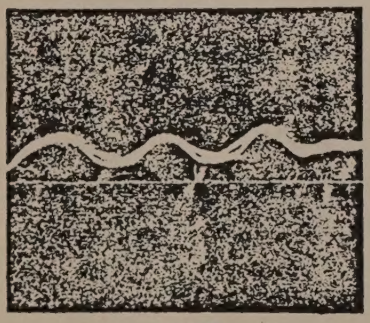


147C
An Improvement, But Still Very Noisy

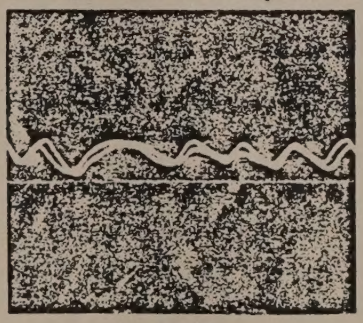


PSE MODIFIED AMP
Plenty Of Tone, Very Little Noise

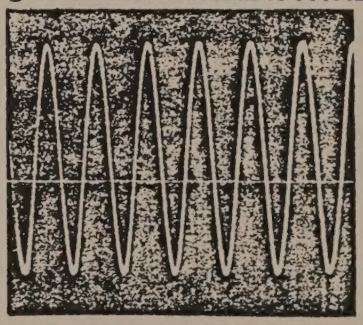
The same procedure was used to obtain the following waveforms, but the power influence noise source was removed and the frequency of the tone source changed to 1000HZ. These waveforms are indicative of the incompatibility of the newer types of tone generators and the standard 147B or 147C. Virtually all of the latest tone generators operate near this frequency, but the 147 amplifier was designed to receive 500HZ to 600HZ.



147B
No 1000HZ Here



147C
Very Little Here



PSE MODIFIED AMP
Plenty Of Tone Output

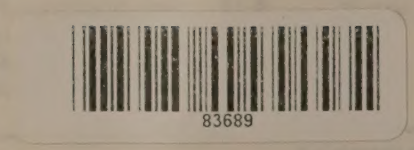
SPECIFICATIONS

- Max overall gain = 102DB.
- Frequency tuning range = 450HZ to 3800HZ in two bands (450HZ to 1300HZ and 900HZ to 3800HZ).
- Uses two EV#216 batteries.

WARRANTY

All 147 amplifiers modified to the tunable type by Parkway Systems Engineering are guaranteed to be free of defects in parts or workmanship for one year after completion of the modification, as long as the amplifier has not been further modified or abused beyond the normal wear and tear of everyday use. No other warranty is expressed or implied.

PSE PARKWAY SYSTEMS ENGINEERING
1301 HIGHWAY 80 ● CLINTON, MISSISSIPPI 39056
TELEPHONE (601) 924-2401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